

REMARKS

In the specification, paragraph [0038] is amended to correct a clerical error.

Prior to entry of this response, Claims 1-26 were pending in the application, with all claims rejected. By this response, Claims 1, 10, and 23-26 are amended. No claims have been added or canceled. Hence, Claims 1-26 are pending in the application.

SUMMARY OF THE OFFICE ACTION

Claims 1-16 and 18-26 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Marchand (“*Marchand*”; U.S. Patent No. 6,714, 515). Claim 17 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Marchand* in view of Schell et al. (“*Schell*”; U.S. Patent No. 6, 314,520).

THE REJECTIONS BASED ON THE PRIOR ART

(I) Rejection Under 35 U.S.C. §102(e)

(A) Independent Claims 1, 10, 24 and 25

Claims 1, 10, 24 and 25 recite similar features and, therefore, are discussed as a group. Claims 1, 10, 24 and 25 are amended herein to further define some claim terminology in the body of the claims, and to recite functionality of respective corresponding embodiments described in the application as filed. Thus, no new matter is introduced in the application by way of these amendments.

(i) Functional Overview of Embodiments of the Invention

Generally, embodiments recited in Claims 1, 10, 24 and 25 involve a network operational support system, which comprises a set of programs designed to support various network management functions (e.g., monitoring, controlling and analyzing problems in a computer network). The operational support system is configured with “native policies” that

address certain operational state conditions of network systems that the operational support system supports. However, during operation, network systems transition between operational states and may at times be in a state that is not fully supported by the native policies. Thus, the operational support system is “policy-enabled” in that it interfaces with external policy management systems, i.e., policy management systems that are logically separate from the operational support system.

The operational support system is capable of determining which policy management systems address conditions representing the operational state of the managed network system. The operational support system is capable of availing of executable policy programs provided by such policy management systems, which address certain conditions associated with certain system states. Pertinent executable policies are selected based on a “contract” that defines criteria that the executable policies must satisfy, in light of policy “views” that comprise policies that address corresponding operational states. The selected executable policies are retrieved from the policy management systems and executed by the operational support system, to implement the corresponding policies that address the conditions that represent the current network operational state.

(ii) Overview of *Marchand*

In *Marchand*, a radio network server (RNS) is modified to function as a policy server providing resource allocation rules in a wireless IP network. The RNS informs a Bandwidth Broker (BB) whether sufficient resources are available to satisfy requests for resources, and the BB either allows or denies such requests based on input from the RNS. Edge routers enforce policy decisions made by the BB. (Abstract).

(iii) Differences between *Marchand* and claimed subject matter

Marchand is primarily directed to management of network bandwidth resources.

Marchand does mention that bandwidth broker (BB) does not merely control bandwidth, but can cause installation of policies in the edge routers that enforce BB decisions (col. 4, lines 57-64). However, the QoS that the BB tries to implement is network bandwidth related. By contrast, the operational support system (OSS) of the present application, which is designed to support various telecommunication network management functions, retrieves and executes executable policy programs from external policy management systems. Thus, the OSS is not directed to network bandwidth but to network management and support, such as monitoring, controlling and analyzing problems in a computer network. Furthermore, the OSS implements the policies imported from separate management policy systems, by executing such policies, rather than installing the policies on remote network components for execution.

Claim 1 recites the following:

in response to a network system state change, receiving one or more conditions that represent the current state of the network system;
determining whether native policies within the operational support system address the one or more conditions;
in response to determining that the native policies do not address the one or more conditions,
comparing the one or more conditions to one or more conditions addressed by one or more policy views of respective one or more policy management systems that are logically separate from the operational support system;
based on comparing, determining at least one particular policy management system that addresses the one or more conditions that represent the current state of the network system.

Marchand does not disclose similar logic in response to a network system state change.

That is, *Marchand* does not disclose receiving conditions that represent the current operational state of the system, determining whether native policies address the conditions and, if not, comparing these conditions with specific conditions addressed by the external policy management systems, to determine particular policy management systems that specifically address the current network state as represented by the conditions. *Marchand* merely discloses management of a request to set up a third generation (3G) wireless IP network call (see, e.g., col. 3, lines 60-63). Albeit, *Marchand* does illustrate and briefly describe Simple Policy Services 42, an internal policy server for defining simple rules, and different types of policy servers: Media Policy Server 39, Application Policy Server 41 and RNS 21. However, to reiterate, *Marchand* simply does not disclose the specific foregoing “smart filtering” logic through which at least one particular policy view, from a particular policy management system, that specifically addresses the current network operational state as represented by the conditions, is determined.

Furthermore, *Marchand* does not disclose the use of policy views, which comprise a set of required policies that address specific conditions representing the current network state, from the external management policy systems. From the policy views, selected executable policies are imported, in accordance with a contract from the policy view, where the contract defines criteria that the selected executable policies satisfy and governs selection and operation of such executable policies.

Based on the foregoing, *Marchand* does not anticipate Claims 1, 10, 24 and 25. Therefore, withdrawal of the rejection of Claims 1, 10, 24 and 25 under 35 U.S.C. § 102(e) is respectfully requested.

(B) Independent Claim 23

(i) Functional Overview of Embodiment of the Invention

Generally, Claim 23 recites, *inter alia*, various steps associated with policy access points of a policy kernel that implements policy-enabled, contract-based management of an operational support system that comprises a set of programs designed to support various network management functions. Further, Claim 23 recites steps related to the “contract” (e.g., contract 250 of FIG. 2), as follows with emphasis added:

causing a contract of the requested policy view to be initiated for the selection of executable policies from an external policy engine of the policy management system;

causing the contract to apply environmental requirements to the selected executable policies to enable the selected executable policies to execute on the policy kernel;

causing the contract to apply dependency rules to two or more of the selected executable policies when the behaviors of the two or more selected executable policies are in conflict with one another.

As described in paragraph [0030], each policy view comprises a contract and a set of required policies, where the contract provides a means for assuring that the requested policy view is provided and that the appropriate policies are exchanged between an external policy management system and policy kernel of operational support system. As recited in Claim 23, functions of the contract include (a) applying environmental requirements to enable the selected executable policies to execute on the policy kernel, and (b) applying dependency rules to resolve policy conflict issues.

As described in paragraph [0034], environmental requirements identify or define one or more particular running components that may be required for particular executable policies to

be enabled by policy kernel. For example, one environmental requirement for a particular executable policy may be language compilation by a particular compiler. In this case, contract will run the required language compiler on executable policy in order to enable it to be executed by policy kernel.

As described in paragraph [0035], contract contains a set of policy dependency rules regarding the handling of conflicts or dependencies between executable policies that are selected. When the behaviors of two or more executable policies are in conflict with one another, contract applies the policy dependency rules to the executable policies to resolve conflicts between executable policies prior to constructing the requested policy view and importing the executable policies by policy kernel.

(ii) Differences between *Marchand* and claimed subject matter

The passages of *Marchand* cited in the Office Action in support of the “apply environmental requirements” feature discuss that the amount of assigned bandwidth in packet-switched IP networks is not fixed and can be renegotiated, via the BB and a policy server, during a call. Renegotiating and changing network bandwidth for a call, during the call, is not the same as applying environmental requirements to enable the selected executable policies to execute on the policy kernel, as recited in Claim 23. Because the “executable policies” are executable programs (e.g., software code), execution of such policies requires the code be in executable form and may require a particular runtime environment for execution in the policy kernel. Hence, the contract of Claim 23 enables the executable policies to execute in the policy kernel through application of “environmental requirements” associated with the selected executable policies. *Marchand* does not appear to discuss such “executable” policies, in the sense of machine-executable program code. Nor does *Marchand* teach or suggest such

activities in furtherance of ensuring that executable policy programs can actually execute in the execution environment, i.e., the policy kernel of the OSS in Claim 23.

The passages of *Marchand* cited in the Office Action in support of the “apply dependency rules” feature discuss that the amount of assigned bandwidth in packet-switched IP networks is not fixed across domains carrying a call, and can be changed during the call, which may require mapping a requested Class of Service (e.g., Conversational) and a specific type of application (e.g., voice or video) to a specific SLA. Mapping a class of service and/or a type of network call to a service level agreement, is not the same as resolving conflicts between policies, as recited in Claim 23. *Marchand* does not resolve conflicts among policies being applied to the same network system, rather it determines which SLA should be applied based on a requested class of service, in view of the type of service requested. In other words, *Marchand* tries to ensure that a correct SLA is chosen based on the request, in order to service the request, but does not resolve conflicts between policies that are executed based on an actual current system state as represented by the one or more conditions.

Based on the foregoing, *Marchand* does not anticipate Claim 23. Therefore, withdrawal of the rejection of Claim 23 under 35 U.S.C. § 102(e) is requested.

(C) Independent Claim 26

As shown above, *Marchand* does not disclose the use of policy views, which comprise a set of required policies that address specific conditions representing the current network state, from the external management policy systems. Further, *Marchand* does not disclose executable policies that are imported in accordance with a contract from the policy view, where the contract defines criteria that the selected executable policies satisfy and governs selection and

operation of such executable policies. Therefore, *Marchand* does not anticipate Claim 26, which is patentable over the cited references of record.

(D) Dependent Claims 2-9, 11-16, and 18-22

Claims 2-9 depend from Claim 1 and Claims 11-16 and 18-22 depend from Claim 10. Therefore, Claims 2-9, 11-6 and 18-22 are patentable over the references of record for at least the same reasons as the claims from which these claims depend. Furthermore, each dependent claim recites at least one additional feature that makes it independently patentable over the cited references of record. For example, each of Claims 6-8 and 19-21 recites features involving one or more of the environmental requirements and dependency rules, which are discussed above in reference to Claim 23. Due to the fundamental differences between the independent claims and *Marchand* previously discussed, further elaboration with respect to these additional features is foregone at this time. However, the rejection of the dependent claims is collectively traversed, and no statements of official notice or allegations of well-known features that may be present in the Office Action are stipulated to or admitted as prior art features, and the right to separately argue such features in the future is not disclaimed.

Withdrawal of the rejection of Claims 2-9, 11-6 and 18-22 under 35 U.S.C. § 102(e) is requested.

(II) Rejection Under 35 U.S.C. §103(a)

(A) Dependent Claim 17

Claim 17 depends from Claim 10 and, therefore, is patentable over the references of record for at least the same reasons as the claim from which this claim depends. Due to the fundamental differences between Claim 10 and *Marchand* previously discussed, further

elaboration with respect to this dependent claim is foregone at this time. However, the rejection of Claim 17 is traversed, and no statements of official notice or allegations of well-known features that may be present in the Office Action are stipulated to or admitted as prior art features, and the right to separately argue such features in the future is not disclaimed.

Withdrawal of the rejection of Claim 17 under 35 U.S.C. § 103(a) is requested.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims (1-26) are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,
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